

General

Title

Venous thromboembolism (VTE) diagnosis and treatment: percentage of patients diagnosed with lower extremity VTE who meet the criteria for LMWH and for whom shared decision-making was used prior to implementing therapy.

Source(s)

Dupras D, Bluhm J, Felty C, Hansen C, Johnson T, Lim K, Maddali S, Marshall P, Messner P, Skeik N. Venous thromboembolism diagnosis and treatment. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2013 Jan. 90 p. [216 references]

Measure Domain

Primary Measure Domain

Clinical Quality Measures: Process

Secondary Measure Domain

Does not apply to this measure

Brief Abstract

Description

This measure is used to assess the percentage of patients age 18 years and older diagnosed with lower extremity venous thromboembolism (VTE) who meet the criteria for low-molecular-weight heparin (LMWH) and for whom shared decision-making was used prior to implementing therapy.

Rationale

The priority aim addressed by this measure is to improve accurate diagnosis and treatment of venous thromboembolism (VTE).

It is estimated that over one million patients are identified as having an acute venous thrombotic event in the United States annually. This includes patients with deep vein thrombosis and pulmonary embolism (PE) and is estimated to result in more than 100,000 deaths each year.

Treatment for VTE with low-molecular-weight heparin (LMWH) provides reliable anticoagulation levels when given subcutaneously on a weight-based dosing schedule. No laboratory monitoring of the intensity of anticoagulation is required for LMWH, except in special circumstances. Recent randomized controlled trials of the treatment of PE have shown LMWH to be as effective and safe as unfractionated heparin (UFH).

Patient-focused care would include shared-decision making between patient, family and the clinician when deciding upon outpatient treatment. According to the MN Shared Decision-Making Collaborative: shared decision-making is a process in which patients and clinicians collaborate to clarify all acceptable options, ensure the patient is well-informed, and choose a course of care consistent with patient values and preferences and the best available medical evidence.

Evidence for Rationale

Charland SL, Kliner DE. Low-molecular-weight heparins in the treatment of pulmonary embolism. *Ann Pharmacother*. 1998 Feb;32(2):258-64. [27 references] [PubMed](#)

Dupras D, Bluhm J, Felty C, Hansen C, Johnson T, Lim K, Maddali S, Marshall P, Messner P, Skeik N. Venous thromboembolism diagnosis and treatment. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2013 Jan. 90 p. [216 references]

Erkens PM, Prins MH. Fixed dose subcutaneous low molecular weight heparins versus adjusted dose unfractionated heparin for venous thromboembolism. *Cochrane Database Syst Rev*. 2010;(9):CD001100. [62 references] [PubMed](#)

Hull RD, Raskob GE, Brant RF, Pineo GF, Elliott G, Stein PD, Gottschalk A, Valentine KA, Mah AF. Low-molecular-weight heparin vs heparin in the treatment of patients with pulmonary embolism. American-Canadian Thrombosis Study Group. *Arch Intern Med*. 2000 Jan 24;160(2):229-36. [PubMed](#)

Kearon C, Akl EA, Comerota AJ, Prandoni P, Bounameaux H, Goldhaber SZ, Nelson ME, Wells PS, Gould MK, Dentali F, Crowther M, Kahn SR. Antithrombotic therapy for VTE disease: antithrombotic therapy and prevention of thrombosis, 9th ed: American College of Chest Physicians evidence-based clinical practice guidelines. *Chest*. 2012 Feb;141(2 Suppl):e419S-94S. [453 references] [PubMed](#)

Low-molecular-weight heparin in the treatment of patients with venous thromboembolism. The Columbus Investigators. *N Engl J Med*. 1997 Sep 4;337(10):657-62. [PubMed](#)

Raskob GE. Heparin and low molecular weight heparin for treatment of acute pulmonary embolism. *Curr Opin Pulm Med*. 1999 Jul;5(4):216-21. [34 references] [PubMed](#)

Simonneau G, Sors H, Charbonnier B, Page Y, Laaban JP, Azarian R, Laurent M, Hirsch JL, Ferrari E, Bosson JL, Mottier D, Beau B. A comparison of low-molecular-weight heparin with unfractionated heparin for acute pulmonary embolism. The THESEE Study Group. *Tinzaparine ou Heparine Standard: Evaluations dans l'Embolie Pulmonaire*. *N Engl J Med*. 1997 Sep 4;337(10):663-9. [PubMed](#)

Primary Health Components

Venous thromboembolism (VTE); low-molecular-weight heparin (LMWH); shared decision-making

Denominator Description

Patients diagnosed with lower extremity venous thromboembolism (VTE) as identified by the following

International Classification of Diseases, Ninth Revision (ICD-9) codes: 451.11, 451.19, 451.2, 453.8, who meet the criteria for low-molecular-weight heparin (LMWH) (see the related "Denominator Inclusions/Exclusions" field)

Numerator Description

Patients treated with low-molecular-weight heparin (LMWH) (listed with Generic Code Number [GCN] code 7542) for whom shared decision-making was used prior to therapy selection

Evidence Supporting the Measure

Type of Evidence Supporting the Criterion of Quality for the Measure

A clinical practice guideline or other peer-reviewed synthesis of the clinical research evidence

Additional Information Supporting Need for the Measure

Unspecified

Extent of Measure Testing

Unspecified

State of Use of the Measure

State of Use

Current routine use

Current Use

not defined yet

Application of the Measure in its Current Use

Measurement Setting

Ambulatory/Office-based Care

Hospital Inpatient

Hospital Outpatient

Professionals Involved in Delivery of Health Services

not defined yet

Least Aggregated Level of Services Delivery Addressed

Clinical Practice or Public Health Sites

Statement of Acceptable Minimum Sample Size

Unspecified

Target Population Age

Age greater than or equal to 18 years

Target Population Gender

Either male or female

National Strategy for Quality Improvement in Health Care

National Quality Strategy Aim

Better Care

National Quality Strategy Priority

Person- and Family-centered Care

Prevention and Treatment of Leading Causes of Mortality

Institute of Medicine (IOM) National Health Care Quality Report Categories

IOM Care Need

Living with Illness

IOM Domain

Effectiveness

Patient-centeredness

Data Collection for the Measure

Case Finding Period

The time frame pertaining to data collection is monthly.

Denominator Sampling Frame

Patients associated with provider

Denominator (Index) Event or Characteristic

Clinical Condition

Patient/Individual (Consumer) Characteristic

Denominator Time Window

not defined yet

Denominator Inclusions/Exclusions

Inclusions

Patients diagnosed with lower extremity venous thromboembolism (VTE) as identified by the following International Classification of Diseases, Ninth Revision (ICD-9) codes: 451.11, 451.19, 451.2, 453.8, who meet the criteria for low-molecular-weight heparin (LMWH)

Population Definition: Patients age 18 years and older.

Exclusions

Patients are excluded for any of the following conditions:

- Any VTE other than lower extremity
- Suspected or confirmed pulmonary embolus (PE)
- Contraindications to anticoagulation
- Familial bleeding or clotting disorders
- History of heparin-induced thrombocytopenia
- Pregnancy
- Phlegmasia/extensive iliofemoral disease
- Renal dysfunction requiring dialysis

Exclusions/Exceptions

not defined yet

Numerator Inclusions/Exclusions

Inclusions

Patients treated with low-molecular-weight heparin (LMWH) (listed with Generic Code Number [GCN] code 7542) for whom shared decision-making was used prior to therapy selection

Exclusions

Unspecified

Numerator Search Strategy

Fixed time period or point in time

Data Source

Administrative clinical data

Electronic health/medical record

Type of Health State

Does not apply to this measure

Instruments Used and/or Associated with the Measure

Unspecified

Computation of the Measure

Measure Specifies Disaggregation

Does not apply to this measure

Scoring

Rate/Proportion

Interpretation of Score

Desired value is a higher score

Allowance for Patient or Population Factors

not defined yet

Standard of Comparison

not defined yet

Identifying Information

Original Title

Percentage of patients diagnosed with lower extremity venous thromboembolism (VTE) who meet the criteria for low-molecular-weight heparin (LMWH) and for whom shared decision-making was used prior to implementing therapy.

Measure Collection Name

Venous Thromboembolism Diagnosis and Treatment

Submitter

Institute for Clinical Systems Improvement - Nonprofit Organization

Developer

Institute for Clinical Systems Improvement - Nonprofit Organization

Funding Source(s)

The Institute for Clinical Systems Improvement's (ICSI's) work is funded by the annual dues of the member medical groups and five sponsoring health plans in Minnesota and Wisconsin.

Composition of the Group that Developed the Measure

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Disclosure of Potential Conflicts of Interest

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Guideline-Related Activities: None

Research Grants: None

Financial/Non-Financial Conflicts of Interest: None

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Research Grants: None

Financial/Non-Financial Conflicts of Interest: None

Adaptation

This measure was not adapted from another source.

Date of Most Current Version in NQMC

2013 Jan

Measure Maintenance

Scientific documents are revised every 12 to 24 months as indicated by changes in clinical practice and literature.

Date of Next Anticipated Revision

The next scheduled revision will occur within 24 months.

Measure Status

This is the current release of the measure.

This measure updates a previous version: Institute for Clinical Systems Improvement (ICSI). Venous thromboembolism diagnosis and treatment. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2012 Jan. 96 p.

The measure developer reaffirmed the currency of this measure in January 2016.

Measure Availability

Source available from the [Institute for Clinical Systems Improvement \(ICSI\) Web site](#)

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NQMC Status

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Production

Source(s)

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